

ABSTRACT

The invention concerns a monitoring unit [10] for monitoring the condition of a semi-permeable membrane [24] in a water purification system, and particularly the condition of spiral membrane in a reverse osmosis water purification system. The monitoring unit [10] comprises a flow chamber [12] that includes an inlet for permitting ingress of a feed fluid into the flow chamber [12], and a feed fluid outlet [22] for permitting at least partial through-flow of the feed fluid through the flow chamber [12] such that cross-flow conditions apply in the flow chamber [12]. The semi-permeable membrane [24] is at least partly supported in the flow chamber [12]. The monitoring unit [10] further comprises at least one fluid outlet [18] arranged in fluid communication with the flow chamber [12] for permitting egress of fluid from the monitoring unit [10] after having passed through the membrane [24]; and an inspection window [20] for permitting visual inspection of the semi-permeable membrane [24]. The invention also extends to the use of such a monitoring unit [10] in evaluating various operating parameters of such a system, and to a water purification system including such a monitoring unit [10] or test cell.